THE GREAT FLUORIDATION HOAX:
FACT OR FICTION?

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DOES IT BENEFIT YOU? OR BIG BUSINESS!

The controversy sulmundmg fluoridation raises numer of important soio-ethical issues which Cannol be overlooked. One of he most buming quesons is whether the fluoridation prograrnme I represents a miletone in the advancement of communily health or the opportunisti oucome of a powerul loby concerned largely to advance its own vesl interests at the expense of he interests of the public. The historical origins o fluondation are revealing, lhough we shll for obvious reasons in what follows 21 interpret the revelation itself, but rather tese out a few of the truly remrkble coincidences which make those origins revelatory.

In a more direct approach o a relted issue however, we shall argue that the potential and actual health risks associated with fluoridation have not been sufficiently appreciated by those in favour of fluoridation. The intentional inoduction o fluorides in drinking water has certainly not received the rigorous scrutiny and testing properly brought to ear on tle wide y of available medical drugs, many of which can be bought without prescnption. Finally, we urge that even if it were determmed that the addition of a minimal amount of fluoride to our water supply was both safe and effective in dle reduclion of caries in the teeth of children, the relevanl dosage of fluorides could no be satisfactorily restricted to ensure that the harmful eects of fluoride did nol ouweigh the aeged benerlcil efects.

THE GENESIS OF FLUORIDATION

Many readers will be ssed to heu at fluorides have been in use for a long tne, but not in the prevention o tooth decay. The fluorides we now, in the name of heath, add o our drnking water were for nearly four decades used as **stomach poison** inseciicides and rodenticides. Fluorides are believed to exert their toxic action on pests by combining with and inhibiting many enzymes that contain elements such as irn, calcium and magnesmm. For similar reasons fluorides are also highly toxic to plnts disrupting the delicate biochemical balance in respect of which photosynthesis takes place. No is here any reason to suspect that humans are immune from the efects of this poent poison. Even a qllick perusal of the indexes of most reference manuals on industrial toxicology list a secon on the haa}ds of hndling fluoride compounds. In assessing e toxicity levels of fluwides Sax confirms tht doses of Z5 to SOmg must be rearded as 'highly toxic' and can cause severe voming, diarrhea and CNS mnifestations.[1]

It is crucial to rccognise fm he oulset that fluonde is a highly txic sllbstance. Appreciation of this simple point makes it easier to understand 1le natural reluctance on the part of some to acept without question the compulsory ingestion of poison to obtan partl control of what would geneally be regded as a noncommunicable disease. The potent toxicity of fluoride and the narrow limits of human tolerance (between l-Sppm) make lhe quesion of optimum corenion Or pramount imponance.

FLUORINE WASTES - A MAJOR POLUTANT

The fluoridation controversy becomes even more interesng when we relise that industrial fluonne wasles hve since the erly l900's been one of e main pollunts of ow lkes, seuns and acquifers, causing untold losses to fanners in regard to the poisoning of stok and crops.

... the fluorides we now add to our drinking water - were used for nearly 40 years as "RAT POISON"

Fuorides such as hydrogen fluoride and silicon tetrafluoride are emitted by phosphate fertilizer manuftwing plants (phosphae rock can typically conin 3% f}uonde). The industrial process of steel production, certain chemical Focessing and particularly aluminium producion which invo}Yes the elecolysis of alumina in a bath of molten cryolite (sodium aluminium hexafluoride) all release consideable quantities of fluorides into the environment. Ihe fluorides

emitted are readily absorbed by vegetaon and are known to cause subs al leaf injuIy. Even in concentrations as low as 0.1 pp (parls per billion), fuorides sign}ficantly reduc boh the growth and yield of crops. Livestock have also fllen victim to fluoride poisoning caused primarily by inestin contaminated vegetation..2 It is reported that the Alurninium Cotporation of Amenca (ALCOA) was confronted by annual clims for mllions o compensate for the havoc wreaked by their fluonne wastes. It was in lg33 that the United States Public Heh Serice (PHS) becme particularly concerned aout the poisoning effect of fluonde on teeth, determining at dental fluorosis (eth motded with yellow, brown and even black stains) occurred amvngst 2S-30 percent of children when just over lppm of fluoride was present in drinking wae. 3 By 1942 the PHS, largeIy under the guidance of Dr. H. Trendley I)ean, legislated that drinking water containing up to lppm of fluonde was accepale. The PHS was not at tls stage inoducin fluondation - it was oncerned mainly to define the maximum llowable limil eyond which fluoride concentons should be garded s contaminating public waer supplies. Dean's researh investgahons also indicated that although lppm fluoride concentraon caused enamel fluorosis or mottling in a sma11 percentgc of children (up to 109o), it also served to provide partial protection against dental decay.

"… the Aluminium Corporation of America (ALCOA) was confronted by annual claims for millions of dollars to compensate for the havoc wreaked by their fluorine wastes."

HOW IT ALL STARTED

Dean was also well aware that fluoride concenations of as little s 2 ppm could constilute a public health concern, causing severe dental fluorosis. Coincidentallyl the U.S. - PIS was at the time sponsored under he Department of the Treasury, the chief oflcer of which was Andrew qellon, owner of ALCOA. In 1939 The Mellon Institute (established and controlled by the family of Andrew Melon)t employed a scientist, Dr. Gerald Cox, o find a viable market for the industrial f1uolide wastes associated with the prducon of aluminium. Of is iniguing series of connections between the interests of ALCOA and the sory of fluoridation WaLcer writes:

"In 1939, Gerald Cox, a biochemist employe by the University of Pitsurgh, was undertaking contJact wk for the 4ellon Instie.

At a meeting of water engineers at Johnstown, Pennsylvani, he first put forward his idea l add fluonde to public water supplies.

By 1940, Cox hd become a memer of the Food and Nuition Board of the National Research Council, and he prepred for this illustrioas ody a series of submissions strongly promoting the idea of artiflcil nuo tion.5"

Dennis tevenson also ommens aut this connetion between Dr. Cox, ALCOA and fluoridaion but somewhat more cynically. He wlites:

"Dr. Cox then proposed artilCial water fluoridaon as a means of reducmg tooth dcay. What beUer way to solve the hue and cosdy problem of disposing of toic waste fom Auminium manufachlrers than geing paid to put it in e drinking waler? What an incredible coincidene - ALCOA and the onginal fluoridation prop."

Nor do the chan of seeming coincidences end here.

Caldwell refers to e vely interesng testimony of Miss loqenoe Bingham on My 25. 26, 27th 19S4, efore the Commitee on Interstate and Foreign Commercet which hd oganiged a senes of hearings on the fluoridation issue. As Plesident of the MassachuseUs lVomenls Political Club, Miss Birrningham was on the occasion representing some 50.000 women. She is recorded as saymg:

"In 1944 Oscar wmg was put on the payroll of the Aluminium Company of America [ALCOA], as atomey; at an annual saJary of 750,000. This fact was estabished al a Senate hearing and became part of the Congressional Record. Since the Aluminium Company had no big ligation pending at the time, the uestion might logically be asked, why such a large fee' A few months later Mr. Ewing was mde Feral Security Administrator with the announcement lhat he was taking a big salary ut in order o serve his country. As head of the Federal Secunty Agncy (now the Dpanent of Heal Education and VUelfare), he immediately sarted the ball rolling to sell 'rat poison' by the ton ;nstead of in dime packages ... sodium fluoride was dangerous waste product of the aluminium company. They were not permitted lo durnp it into nvers or lelds where it would poison lsh, cate, etc. Apparently someone conceived the brilliant dea of talng advanage of the errneous conclusions drawn from Deaf Smith County, Texas. The Aluminium Company of America then be,gan selling sodium fluoiide tablets lo put in the drinng wter."*

In a footnoe Caldwell comments on this point.

"This refers to a widely circulated report pubished in a popular magazine in the early foriies, in which Dr. George Heard, a denst in)eaf Smith Coun, claimed he had no business because of the nat - ural fluoride in the water. Later, when D. Heard found mottled teeh too britle to fill and a rushing business after supenarkets moved in with processed foods, he in Yain to set the record stra-ght. e could Ind no publishe for his new information. His original arti e ws entilled "The Town lthout A Toothache."

The series of events wh;ch heeafter led to the apparently inevitable implementation of fluoridation deseve also to be reviewed. n 1945 Grand Rapids, Micbigan, USA ws seleted as the site of the first major longitudina study of the effects of fluoridation on the public at large. Compnsons wee to be made with the city of Muskegon, Michigan which remained unfluoridated so that it could be used as a cono19 Although the experiment was spposed to be undertaken over the course of en yeas to detennine any cumulative side-effects which might result from the fluoridat}on of muniipal water, Ewing interened fter only Flve years to declare the success of e study in showing f1uoridtion to be sae. As WaLcer puts it:

"…in June 1950 half-way llough the experiment, e U.S. P.H.S. under its Chief, Oscr Ewing, "endosed" the safety and efectiveness of anificial fluondlatlon; and encowaged its immediate adoption through the - t tO ., la.es."

One year later Ewing was ale o convince the American Congress that fluondaon ws a necessi, and a total of tw million US dollars (an enormous sum of money in those dys) was immediately directed o promote e fluoridaiion program throughout Ihe USA. Il

While the circums ances smTounding Ewing's achievement were revealing, an even more intriguing set of interconnections was yet to be revealed. Miss Bir ningham's testimony had included a state-

ment that "Mr. Ewing's propaganda experL was Edward L. Bernysn.' Her testimony continued:

"We quote from Dr. Paul Mannings' artiGle: 'The Federal Engineering of Consent'. Nephew of Sigmund Freud, the Vienna born Mr. Bernays is well documented in the axon book published in 1951 (umford Press, Concord, N.H.); Public Relations, Edward L. Bernays and the American Scene: *"The conscious and intelligent manipulation of the organise habits and opinions of e masses must be done by expers. Ihe public relations counsels' (Bernays invented the terrn): 'they are he invisible rulers who control the destinies of milions ... the most direet way to reach the herd is Ihrough lhe lead - ers. For, if the group they dominate wlll respond .. all this must be planned ... indoctinahon must be subtle. It should be worked into the everyday life of the people - 24 hours a ay in hundreds of ways ... A rdelnitin of eth;cs is neessary...* the subject matter of the propaganda need not necessarily be true*', says Bemays."*

If the socio-ethical attitudes expressed in this testimony ar assoiated with the fluo ion programme, il is cler that we have more than just health reasons to be concemed aout fluondation.

In 1979 Chemical and Engineering News ' published a review of a well documented anti-fluoridation book by Waldbott.l The unashmedly pro-fluoridation review rompted a spa of lelters criis-ing the tenor and content of the review, nd re-asserted Waldbott's persuasive se against fluondation. One lcer complalned that the reviewer was in fact explicitly urging readers not to take seriously the vous repors of fluondle poisoning.ls Anolher letter writer drew attention to another aspet of the review, saying:

"Waldbott does not base his ob3ection to fluoridation merely on dental fluorosis but on the broder issue of idividual clinic ici. Those of us in clinial Factice (and our patients as well) have mufh to be grateful to Waldbott for in ou attenion to this aspect of luoridation problems. The aler clinician who goes beyond the ordlodox pracice of mking diagnoses keyed to organicity and providing symptomatic reatment will md in his pactice those individuals who are being made ill by fluoridation. *It is is insight tha is Waldbott's F_eatest Gonibution ... "*

"... employed a scientist, Dr. Gerald Cox, to find a viable market for the industrial fluoride wastes associated with the production of aluminium."

A second major point bypassed m e boolc review is the fact of dramatically increased diLy fluoride exposwe, as confirmed by the data of Rose and Marier (Canadian Naiionl Research Council, Herta Spencer, Wiaoci, and olhers, including my own food fluonde study ... It boggles the mind to argue, a the US Public Health Serice does, that t'optimal" water fluoridion levels should be lhe same in 1979 as they were in 1943 when food fluoride was essentially negligi'ole.

ll is ironic that if fluondation were to be raised as new concept for the prevention of tooth decay today, the same government agencies that might employ reviewer Burt would rejt Ihe proposal wihout a second thought. It is only an accident of historical scientific naivete tha fluoridaon became an entrenched public policy. The fact that 100 mlllion Amenans (and a large percentage of them against theu exFessed desi) are subiect the unneessary ecologic burden of water fluoridation does not make it righ..."'6

Mandatory medication by fluoridalion was not of course peculiar to the US. Australians have for more than hree decades been subjectd to forced f1uoridation of their drinkmg water. In lgS3 the National Health Medicat Reseuch Council of Australia lent its suppor to the mndatory mass-medicaton of Australians.l7 It is bizarre and disconcerting to find that the introduction of the fllaidtion progarnme into our cies wag also linked with political and industril inteplay. These connetions hae been deftly exposed by Walkr and more reentiy by Wendy Varney in her book, Fluoride in Australia - A Case to Answer. I

Today, Australia has 'distinuished' iself by promoting e fluo on programme with such vigou t Ausha now rnks as the most comprehensively floondatRd couny in e world. More than 70% of Ausalians are obliged to drin water to which fluondes have een added. Bris e is e only capital city whch remains unfluoridated. Austr persists in its policy committment oo artificial fluoidation, despite the fact that 98% of the world's populaon has eiher discontnued uodation programmes OJ never begw em.

Stistics show at less than 40% of dle US is currently fluoridted and less than 10% of England. Sweden, Scotland, Norway, Hungary, Holland, West Germany, oenrnar, and Be1gim have all disconnued Ruoridation, o narne only a few."

CAN FLUORIDATION BE KEPT AT SAFE LEVELS?

Although lppm is standardly deined as that level of fluoride concentration which provdes maximal prtection against dental decay, with minimal clinically observable dental fluorosis conroversy ranges widely as to adverse effects of prolonged fluoride exposure even at this level. As early as 1942, il was reported that in areas of endemc fluorosis with nuoride concentrations or 1 ppm or IGSS children with poor nutrition suffered skeletal defects, couple with severe motling of teeth.

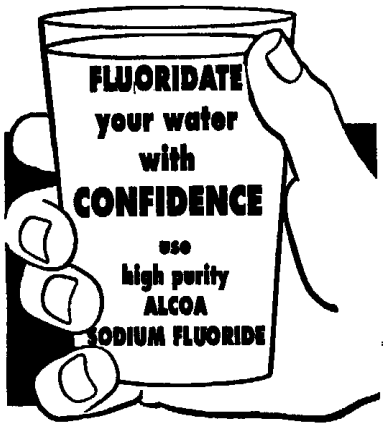
Even if one grants that fluoride concentrations of lppm ar relatively safe, it has become increasingly clear thal individual levelg of sfe fluoride ingestion cannot be adequately controlled. Dinking wer dosages of fluoridc, for ecample will depend upon variable factors such as lhirst. Liquid intakes lso vary accwding t age, work situation, climate and season and levels of exercise. Ath1etes, for instnce, tend to consume more wate than thei non-ath}etic couu parts. Adjustments to municipal wa supplies cannot accommodate sasfactonly the wide array o relevant individual difeences of this ldnd.

In addition fuorides are ngested in varying quanttie frm my unsusFted surces. Fluoide tblets, seemingl innocuous mouthwashes, gels and even waerased table contnbute to dangeous increases in fluondc evels wU beyond the recommended 1 ppm contained in drinling waer. Although he point has yet to be establi-shed definiiive}y, it has been suggested that alummium cooking utensils and non-stick cookware which are coated wi Tefluoethylene are inclined exude fluoride into food, partiularly if they have surface scratches or are overhea ed. Even more suprising is the fact at tea leaves conain suflcient fluoride that by drinking three to eight cups daily, usmg fluoridated water, the totl fluoride dosae is somewhere etween four and six times the safe maximum recommended daily allowance.l n additin to endemi fluorides in the natural foods we eat, we are in many indus cities forced to breathe fluoIides deriving frm factory emissions.

FLUORIDE CONTAMINATION FROM BEVERAGE CONSUMPTION

By far the mos common source of additional fluoride intake comes from beverage consumpon. Beverages which conain f}uoridated water include reconstituted juices, punches, popsicles, other water-based frozen desserts and caronated beYerages. Studies have shown thal soft drink consumption in the US has incr mrkedly over the Last two decades7notonly aunong enage boys m 15-17 years of age, but among 12 year old children. Statistics show that in Cda soft drink consumption increased by 37% rom 1972 D 981. e increase in soft drink consumplion coincided wih a decrease in the consumption of milk, thereby increasing the overall luode inlake. A nurnber of st-ldies reveal that the dramatic increase in beverage consumption, coupled wih fluaridation of municipal walers constibtes a potential health hazard. Prolonged exposure to fluorides my ctully increase raaher han diminish the incidence of tooth deeay. Enzymtic damge related to enamel mineralisation creates a parotic looth far more susceptible of caries than would otherwise e the case."

In a major study of adverse effects of fluoride Continued on ae 46 Yiamouyiannis and Burlc reported in 1977 that at least 10,000 people in he US die every ycr of fluoride-induced cncer. In the introduction to theu work 7 esearch papers ae cited which demonstrate the mugenic effects associated with fluorides. Thcre is now side consensus within thc scientilc ommunity that the mutagenic tivity of a sllbstance an be regarded as an important indication of its potential cancer ca;ing activi.



ALCOA ADVERTISEMENT - 1950

Sine ose pro fe studies over a dcads ago, a YaSt :ientific literature has continued to acumulate which srongly indicates hat the practice of fluoridating munici water supplies s a dangerous practice. In 1983 an Australian dental surgeon, G. Smith, reported a number of studies which suggest at thee is ww ses nsk to thc public of flunde ovedoe. Hc argues hat "the crucial argument d not concern the fluoride lerel in a community water supply per set but rather wheher flua ion increases the nsk that cemin people deelop, even for a short time, levels of fluoride in the blood that can damage human cells nd systems.t

In 1985 snother Ausalian scientist, M. Diesendorf drew attention to the discovery of a whoe new dimension to the health hazsrds associated with he ingeson of fluorides. Sodium fluoride, for example, had been found to cause unscheduled DNA synhesis and chromosonal aberrations in certaia human cells.2' Other recent studies puport to reveal the actual mchanism by virtue of which fluoride can distup e DNA molecule and the ctive sites of the molecules of may human enzymes.

When all is said, it is manifestly clear that the time has come fo a senous and cmprehensive review of the policy which mandates the compulsory fluoridation of our muniipal water supplies. Sudl a review will no doubt which reliable reseuch investigations can be integrad with a philosophy of health education to assist their implementation. Through education it may be possile to appreciate that within nature itself are important patlerns of design for an overall programme of health. In nature, for instance fluorides are typicany found in deidedly luble forms which are relatively safe. By deliberately intervening make nature's i£ orms of fluoride olul, we lansfonn a relatively humless natural substance into a concentrated and highly toxic substance which can then be indiscnminately dispersed throughut the environmen as a poison. The subde constelation of health clues which nature provides m respect of fluoides is further illustrated by the simple bllt slegant mechanisms of breast-feeding. Bast-fed infants are actually potected from reeiving more than extremely low concenaion of fluoide in breast mil1 by an inbu}lt physiological plasma/milk aier against fluoride.'° There is much about health to learn rom nature, bu to do so we must be moe concerned to join with nature in partnership than to stand back from nahJre o suWue and manipulale it.

Whether the flundaion campaign must be indicted in he light of the evidenc as one of the major public hoaxes perpetrated this century, is a judgement est reserved for the reader. Whstever the judgement, it is incontestable that the prevention of tooth decay is not the bottom-line of he fluoridation debate when the pancea has become the poison.

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